

Serial No. 10/565,338
Docket No. 163-679

REMARKS

In paragraph 1 of the Office Action, claims 1, 7-8 and 14 were rejected under 35 U.S.C. §103(a) as being unpatentable over Byun et al. (Byun) in view of Ohsato et al. (Ohsato). In paragraph 2 claims 4-6, 9, 15, 17 and 21-22 were rejected under 35 U.S.C. §103(a) as being unpatentable over Byun in view of Ohsato and further in view of Hilton.

Reconsideration is requested.

Claim 1 has been combined with claim 4 and claims 2-3 and 5-7 have been canceled. Claims 8 and 12 have been combined and claim 14 has been made dependent on device claim 8 rather than on canceled method claim 7. The primary reference, Byun, discloses a parallel type six-axes force moment measuring apparatus that is connected together by a plurality of connection elements that are rigid. This structure does not suggest the claimed measuring apparatus which has elastic connection elements. While Ohsato discloses the use of flexible connectors, it does not suggest the use of three arms (15) carrying at the end (16) said connection elements consisting of spherical joints (17) free to translate in the direction of the axis of the arms (15) because of a slider type binding (18), as recited in amended claim 1. Additionally Ohsato restricts the material which the six-axis load sensor is made from, to a semiconductor material (see for example claim 1 of Ohsato), which restricts the application of the six-axis sensor to the field of micromechanics which is not relevant to the subject matter of the present invention.

The Hilton patent was applied as teaching the use of a spherical joint in order to provide more flexibility. However, the spherical joint, as pointed out in amended claim 1 as well as in amended claim 8, is not free to translate in the direction orthogonal to the axis of the arms (15) because of a slider type binding (18) that only allows free translation in the direction of the axis. This concept is not shown by Hilton who only discloses a force and torque converter in which the spherical joint can only slide in a direction perpendicular to the axis of the arm. Additionally, the system by Hilton may be employed in situations where it is necessary to convert a manual motion into a control "signal". Hilton is not concerned with a measuring

Serial No. 10/565,338
Docket No. 163-679

apparatus and it is not seen how one skilled in the art would be directed to the force and torque converter art to modify a measuring apparatus. In addition, Hilton does not disclose the use of elastic connectors and one skilled in the art would not be directed to make the claimed measuring apparatus based on the combined teachings of the cited references.


Moreover all of the cited prior art patents describe features that would make impossible their combination to form the subject matter of claim 1.

For these reasons, it is requested that the rejections over the prior art be withdrawn.

Claims 12-13 and 18-20 were identified as allowable claims if rewritten in independent form to include the limitations of the base claim and any intervening claims. Claims 8 and 12 have been combined and claims 13 and 14 have been made dependent on device claim 8 rather than on canceled method claim 7. This claim dependency was in error as claim 7 was a method claim and claims 12-15 were device claims. This amendment has revised the dependency so that it reflects the original claim dependency. Claim 12 has been combined with claim 8 and the substance of claim 9 which has been canceled. Amended claim 8 points out the substance of allowable claim 12 and favorable consideration is requested. Claims 13 and 14 are dependent on allowable claim 8 and favorable consideration is requested. Claim 18 has been amended to be in independent form by combining claims 8 and 15 with original claim 18 and favorable consideration is requested. Claim 15 has been canceled. Claims 17 and 19-21 are dependent on allowable claim 18 and favorable consideration is requested. Claims 22-25 have been canceled.

An early and favorable action is earnestly solicited.

Respectfully submitted,


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